



BOARD OF COMMISSIONERS

1 S. Main St., 9th Floor
Mount Clemens, Michigan 48043
586-469-5125 FAX 586-469-5993
macombcountymi.gov/boardofcommissioners

EDUCATION AND TRAINING COMMITTEE

WEDNESDAY, JUNE 10, 2009

AGENDA

1. Call to Order
2. Pledge of Allegiance
3. Adoption of Agenda
4. Approval of Minutes dated 4-22 and 5-13-09 (previously distributed)
5. Public Participation
6. Higher Education Presentation: Michigan State University School of Osteopathic Medicine
7. Michigan Works Executive Director's Report/John Bierbusse
8. Report on Macomb County Reference & Research Center/Sandy Casamer
9. Approve Amended Procedures for Transition of Macomb County Reference and Research Center Re: Disbursements (mailed)
10. Authorize MSU Extension to Accept Grant from United Way of Southeast Michigan to Provide Financial Management and Housing Education (mailed)
11. Authorize MSU Extension to Accept Grant from Macomb Intermediate School District to Provide Parent Education (mailed)
12. MSU Extension Director's Report and Program Update-Agriculture Production/Marilyn Rudzinski
13. New Business
14. Public Participation
15. Adjournment

MEMBERS: D. Flynn-Chair, Moceri-Vice-Chair, Mijac, Doherty, Rengert, Crouchman, Camphous-Peterson, Bruley, Sprys and Gielegthem (ex-officio)

MACOMB COUNTY BOARD OF COMMISSIONERS

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UNEMPLOYMENT INFORMATION

	March 2008	April 2008	March 2009	April 2009
United States	5.1 %	4.8%	9 %	8.6%
Michigan	7.9 %	6.8%	13.4 %	12.9%
Macomb County	7.9 %	7.0%	15.0%	14.4%
Selected Cities				
Sterling Heights	6.0 %	5.3%	11.7 %	11.2%
St. Clair Shores	8.3 %	7.4%	15.8 %	15.2%
Clinton Township	8.8 %	7.8%	16.6 %	16%
Warren	9.2 %	8.1%	17.3 %	16.6%
Roseville	11.1 %	9.9%	20.5 %	19.8%

6/2009

distributed
6-10-09

Employment Services Registrations

DATE	2008	2009
1 st Week of Year	720	2,705
2 nd Week	877	3,488
3 rd Week	1,050	2,931
4 th Week	812	2,500
5 th Week	755	2,504
6 th Week	781	2,245
7 th Week	802	2,338
8 th Week	698	1,958
9 th Week	710	2,203
10 th Week	832	2,230
11 th Week	900	2,015
12 th Week	842	1,954
13 th Week	854	1,940
14 th Week	898	2,067
15 th Week	959	2,146
16 th Week	922	2,261
17 th Week	841	2,441
18 th Week	850	2,289
19 th Week	852	2,661
20 th Week	800	2,459
21 st Week	730	2,263
22 nd Week	538	1,988
23 rd Week	678	2,409
TOTAL	18,701	53,995

289% INCREASE IN REGISTRATIONS

In the last two weeks, the Macomb/St. Clair Michigan Works has hosted two meetings at the UAW-Chrysler Technology Training Center in Warren. The purpose of the meetings was to work with the state on developing an application for a newly announced funding source, a Regional Economic Impact National Emergency Grant.

The grant application will center around the impact to the region resulting from the bankruptcy proceedings at Chrysler and General Motors. The state will apply for just over \$32 million with \$7,250,000 being allocated to Macomb and St. Clair Counties. These funds will provide training for 1,650 dislocated workers.

Public Emf Company Name	City	Date Receive Incident	Ty Incident	De Final layoff date	Number Layoffs	Employee Oriental County
Trilogy Finishing Incorporated	Detroit	1/12/2009	5 Plant Closi	12/15/2008	15	Detroit
Rock Top Granite	Macomb T	1/5/2009	5 Plant Closi	12/23/2008	206	Macomb
St. Clair Plastics Company	Chesterfiel	2/12/2009	5 Plant Closi	1/16/2009	100	2/12/2009 Macomb
TG Fluid USA Corporation	Brighton	1/15/2009	6 Mass Layo	1/30/2009	50	1/29/2009 Livingston
Perception, Inc.	Plymouth	2/10/2009	6 Mass Layo	1/31/2009	25	Wayne
Halite Seals	Troy	2/18/2009	6 Mass Layo	2/2/2009	15	2/11/2009 Oakland
Bing Metals Assembly	Detroit	2/4/2009	5 Plant Closi	2/13/2009	66	3/18/2009 Detroit
Perfect Mortgage	Southfield	2/23/2009	6 Mass Layo	2/16/2009	40	Oakland
Circuit City	Madison Hi	2/16/2009	5 Plant Closi	2/18/2009	50	2/13/2009 Oakland
Yazaki North America, Inc.	Canton	2/19/2009	6 Mass Layo	2/19/2009	150	2/26/2009 Wayne
Borders Inc.	Ann Arbor	2/19/2009	6 Mass Layo	2/19/2009	136	Washtenav
Detroit Institute of Arts	Detroit	2/24/2009	6 Mass Layo	2/23/2009	56	Detroit
Advanced Accessory Systems LLC	Port Huron	2/24/2009	5 Plant Closi	2/27/2009	79	3/14/2009 St. Clair
Advanced Accessory Systems LLC	Sterling He	2/24/2009	5 Plant Closi	2/27/2009	42	2/27/2009 Macomb
Advanced Accessory Systems LLC	Shelby Tov	2/24/2009	5 Plant Closi	2/27/2009	65	2/27/2009 Macomb
Dupont Company	Mt. Clemer	2/17/2009	6 Mass Layo	2/27/2009	40	2/4/2009 Macomb
Spring Engineering & Mfg Corp.	Canton	1/29/2009	5 Plant Closi	2/28/2009	33	Wayne
United Way for S.E. Michigan	Detroit	3/17/2009	6 Mass Layo	3/16/2009	43	Detroit
Coca Cola Enterprises, Incorporated	Auburn Hill	1/20/2009	5 Plant Closi	3/21/2009	127	2/18/2009 Oakland
Energy Conversion Devices	Auburn Hill	3/16/2009	6 Mass Layo	3/22/2009	70	3/19/2009 Oakland
Technicolor Video Services of Michigan	Livonia	3/17/2009	6 Mass Layo	3/26/2009	71	3/30/2009 Wayne
Technicolor Video Services of Michigan	Detroit	3/17/2009	6 Mass Layo	3/26/2009	259	3/30/2009 Detroit
Office Depot Store	Madison Hi	2/18/2009	5 Plant Closi	3/28/2009	15	2/5/2009 Oakland
Motion Industries, Inc.	Madison Hi	3/10/2009	6 Mass Layo	3/31/2009	10	3/25/2009 Oakland
ArvinMeritor	Detroit	4/13/2009	6 Mass Layo	3/31/2009	50	Detroit
International Paper	Howell	1/26/2009	5 Plant Closi	4/6/2009	101	3/3/2009 Livingston
Red Spot Paint & Varnish Company	Westland	2/26/2009	6 Mass Layo	4/26/2009	45	Wayne
Black & Veach	Ann Arbor	5/11/2009	6 Mass Layo	4/30/2009	17	Washtenav
GM (Corp. HQ)	Detroit	4/20/2009	6 Mass Layo	5/1/2009	1600	Detroit
The Wackenhut Corporation	Livonia	5/14/2009	6 Mass Layo	5/11/2009	58	Wayne
Superior Plastics, Inc.	Rochester	5/18/2009	5 Plant Closi	5/15/2009	130	Oakland
Foamade Industries	Auburn Hill	3/18/2009	5 Plant Closi	5/16/2009		Oakland
ThyssenKrupp	Saline	4/22/2009	5 Plant Closi	5/21/2009	21	Washtenav
Noble International	Warren	4/3/2009	5 Plant Closi	5/29/2009	400	Macomb
ARAMARK	Detroit	2/26/2009	5 Plant Closi	5/29/2009	324	Detroit
Observer/Eccentric Newspapers	Detroit	4/13/2009	5 Plant Closi	5/30/2009	44	4/23/2009 Detroit

Public Empl Company Name	City	Date Receive Incident	TY Incident	De Final layoff date	Number Layoffs	Employee Oriental County
Contech U.S., LLC	Walled Lak	4/22/2009	5 Plant Closi	5/31/2009	36	Oakland
Enterprise Automotive Systems	Warren	2/13/2009	5 Plant Closi	6/1/2009	30	Macomb
Enterprise Custom Products, LLC	Warren	2/13/2009	5 Plant Closi	6/1/2009	60	Macomb
Detroit Long-Term Care Connection	Detroit	5/6/2009	5 Plant Closi	6/1/2009	35	5/20/2009 Detroit
American Axle ("Die Room")	Detroit	3/24/2009	5 Plant Closi	6/4/2009	23	4/23/2009 Detroit
Michigan Civil Rights Commission	Detroit	5/29/2009	6 Mass Layo	6/5/2009	150	6/3/2009 Detroit
Troy Public Schools	Troy	5/5/2009	6 Mass Layo	6/30/2009	82	5/7/2009 Oakland
NYX, Inc.	Livonia	4/8/2009	5 Plant Closi	6/30/2009	61	Wayne
FormTech	Detroit	2/2/2009	5 Plant Closi	6/30/2009	150	3/11/2009 Detroit
Michigan Waste Energy	Detroit	5/4/2009	5 Plant Closi	6/30/2009	40	Detroit
Magna Automotive	Auburn Hill	3/24/2009	5 Plant Closi	7/1/2009	275	4/6/2009 Oakland
Ford Motor Credit	Dearborn	1/29/2009	6 Mass Layo	7/1/2009	64	Wayne
Ann Arbor News	Ann Arbor	3/23/2009	6 Mass Layo	7/1/2009	600	Washtenav
Stock Building Supply	Macomb	5/26/2009	5 Plant Closi	7/12/2009	35	Macomb
Checker Sedan	Dearborn	5/1/2009	5 Plant Closi	7/13/2009	47	Wayne
Commuter Express	Dearborn	5/1/2009	5 Plant Closi	7/13/2009	21	Wayne
Detroit Public Schools	Detroit	4/10/2009	6 Mass Layo	7/30/2009	1000	Detroit
Progressive Stamping Co. Inc.	Royal Oak	3/30/2009	5 Plant Closi	7/31/2009	102	4/16/2009 Oakland
Nishinbo Automotive Corp.	Sterling He	3/6/2009	5 Plant Closi	9/30/2009	35	3/27/2009 Macomb
AMETEK M&CT Division	Clawson	2/17/2009	6 Mass Layo	9/30/2009	150	4/1/2009 Oakland
Blue Cross Blue Shield	Detroit	1/16/2009	6 Mass Layo	12/31/2009	20	Detroit
Android Industries, LLC	Warren	3/23/2009	5 Plant Closing		35	Macomb
Sur-Flo Plastics & Engineering	Warren	5/5/2009	6 Mass Layoff		36	Macomb
Sur-Flo Plastics & Engineering, Inc.	Fraser	5/5/2009	6 Mass Layoff		20	Macomb
Noble International	Troy	4/6/2009	5 Plant Closing		35	Oakland
Sun Microsystems	Southfield	4/3/2009	6 Mass Layoff		150	Oakland
May & Scofield	Fowler/Ville	1/26/2009	5 Plant Closing		146	Livingston
Saint Joseph Mercy health	Howell	5/27/2009	6 Mass Layoff		36	Livingston
AAA Auto Club	Dearborn	1/16/2009	6 Mass Layoff		20	Wayne
Highland Park Career Academy	Highland P	1/23/2009	5 Plant Closing		67	Wayne
Intra Corporation	Westland	4/3/2009	6 Mass Layoff		29	Wayne
Office Depot	Plymouth	1/5/2009	5 Plant Closing		61	Wayne
Roush Technical Services	Allen Park	5/26/2009	5 Plant Closing		60	Wayne
S.P. Richards Co.	Wayne	2/2/2009	6 Mass Layoff			Wayne
Saint Joseph Mercy Health	Livonia	5/27/2009	6 Mass Layoff			Wayne
Worthington Specialty Processing	Canton	5/28/2009	6 Mass Layoff			Wayne
Crain's Detroit Business	Detroit	3/19/2009	6 Mass Layoff			Detroit
Saint Joseph Mercy health	Ypsilanti	5/27/2009	6 Mass Layoff			Washtenav
Saint Joseph Mercy Health	Saline	5/27/2009	6 Mass Layoff			Washtenav

x

x

Public Emr Company Name	City	Date Receive Incident Ty Incident De	Final layoff date	Number Layoffs	Employee Oriental County
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Est. 20% will be served

# Workers w/final LO date 3/1/09 or later	6820	1364
# Workers X \$4400 =	\$ 30,008,000	\$ 6,001,600
Avg per month	2,273	
Project dislocation for 16 mos.	36,373	7,274.67
Proj distoc X \$4400 =	\$ 160,042,667	\$ 32,008,533

Counties included: St. Clair, Macomb, Oakland, Livingston, Wayne, City of Detroit, Monroe and Washtenaw.

RECYCLABLE PAPER

RESOLUTION NO. _____

FULL BOARD MEETING DATE: _____

AGENDA ITEM: _____

MACOMB COUNTY, MICHIGAN

RESOLUTION TO approve amended procedures for transition of Macomb County Reference and Research Center regarding disbursements as outlined below:

INTRODUCED BY: D. Flynn, Chair, Education and Training Committee

- a. The May 21, 2009 correspondence from Harrison Township Supervisor, Anthony G. Forlini, indicated that Harrison Township is unable to take possession of the remaining collection still being housed at the Macomb County Reference and Research Center (formally the Macomb County Library). As such, Harrison Township is rescinding any right to the remaining collection housed at the Macomb County Reference and Research Center (formally the Macomb County Library). It is therefore resolved that the materials already distributed to Harrison Township remain the property of Harrison Township for the purpose of creating a township library that will join the Suburban Library Cooperative.
- b. All Macomb County Reference and Research Center (formally the Macomb County Library) collection items previously disbursed by Harrison Township to member libraries of the Suburban Library Cooperative remain in the possession of those respective libraries.
- c. The collection of items remaining at the Macomb County Reference and Research Center (formally the Macomb County Library) will be distributed as follows:
 - 1) The Macomb County Reference and Research Center (formally the Macomb County Library) staff in cooperation with Wayne State University shall select any remaining items of the collection.
 - 2) The Macomb County members of the Suburban Library Cooperative shall be invited and permitted to select items from the remaining collection on a first come first serve basis between June 16, 17, 18, 19, 2009. Items included in the reference collection may only be taken in sets, when relevant. The determination of what comprises a set, when relevant, and what constitutes the reference collection is left to the discretion of Sandy Casamer and in her absence, William Luft.

COMMITTEE/MEETING DATE

Education & Training 6-10-09

- 3) The Macomb County Community College shall be invited and permitted to select items from the remaining collection on June 22 and 23, 2009. Items included in the reference collection may only be taken in sets, when relevant. The determination of what compromises and what constitutes the reference collection is left to the discretion of Sandy Casamer and in her absence, William Luft.
- 4) The Macomb Intermediate School District (Beal Library) shall be invited and permitted to select items from the remaining collection on June 24, 2009. Items included in the reference collection may only be taken in sets, when relevant. The determination of what compromises and what constitutes the reference collection is left to the discretion of Sandy Casamer and in her absence, William Luft.
- 5) Any and all of the Macomb County Reference and Research Center (formally the Macomb County Library) collection and shelving that remains after June 25, 2009 shall be sold. The sale of the remaining collection shall be arranged through the Purchasing Department with the assistance of the Macomb County Reference and Research Center (formally the Macomb County Library) staff. The sale of the remaining collection, including the removal of the complete collection and shelving materials, shall be accomplished no later than July 3, 2009.

RECYCLABLE PAPER

RESOLUTION NO. _____

FULL BOARD MEETING DATE: _____

AGENDA ITEM:

MACOMB COUNTY, MI

RESOLUTION TO Authorize MSU Extension to accept a grant with the United Way of Southeast Michigan for \$67,500.00 to expand and provide financial management and housing education to Macomb County families from July 1, 2009 through June 30, 2010. Two part-time Educator I's and a part-time Account Clerk IV will be hired to implement the program.

INTRODUCED BY: David Flynn

Education and Training Committee

Macomb County Michigan State University Extension will improve the financial stability of individuals and families through classes, support groups, phone counseling and one-on-one counseling. Minorities and people with low-to-moderate income will increase their financial knowledge and apply their knowledge to build assets. Assets such as home ownership, savings and investments will allow people to be independent, make healthy choices and have a safety net when times are bad and maintain strong neighborhoods. In the long term, MSUE seeks to contribute to breaking a downward spiral and "cycle of poverty" many families find themselves in by providing financial education to families and young people in need. This will be accomplished by providing a full range of educational opportunities and expanding the community network of resources open to families in financial crisis. This program will assist Macomb County at no cost to the county.

COMMITTEE MEETING DATE

Education and Training June 10, 2009

RECYCLABLE PAPER

RESOLUTION NO. _____

FULL BOARD MEETING DATE: _____

AGENDA ITEM:

MACOMB COUNTY, MI

RESOLUTION TO Authorize MSU Extension to accept a grant from the Macomb Intermediate School District for \$68,000 to provide parent education for identified Macomb County families from July 1, 2009 through June 30, 2010. Two part-time Educator I's and a part-time Account Clerk IV will be hired to implement the program.

INTRODUCED BY: David Flynn

Education and Training Committee

Macomb County Michigan State University Extension will provide in-home parenting education and support in the natural environment to families with special needs children, ages 0-3. Families will be linked with developmentally appropriate community resources. This program will provide services at no additional cost to the County.

COMMITTEE MEETING DATE

Education and Training June 10, 2009

RECYCLABLE PAPER



Education & Training Committee

Macomb County MSU Extension

Director's Report

June 10, 2009

Programming Update:

Living with Less Program flyer

Money Smart From the Start flyer

Facing Foreclosure Flyer

Food Safety (Growing) Guide

Lawncare Tip Sheet

Michigan Fruit/Vegetable Availability Guide

MSU Extension is bringing knowledge to life...

Macomb MSU Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status, or family status. MSUE, U.S. Dept. of Agriculture, and Macomb County Board of Commissioners cooperating. MSU is an affirmative action equal opportunity institution.

Distributed
6-10-09



**Go
Green**

LAWNCARE TIP SHEET



MOW HIGH - RECYCLE CLIPPINGS

- Mow at least 3" high
- Return clippings to recycle nutrients
- Sweep or blow clippings from walks and driveways onto the lawn
- Taller grass crowds out weeds and promotes deeper roots
- Deeper roots help the lawn survive droughts



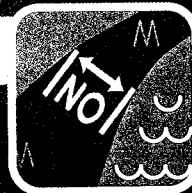
FERTILIZE IN FALL FOR BEST RESULTS

- Fall is the best time to fertilize your lawn
- Be patient in the spring - wait until May to fertilize
- Don't fertilize if the ground is frozen or saturated with water
- Don't guess, soil test for proper fertilizer recommendations



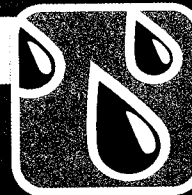
CHOOSE LAWN-TYPE FERTILIZERS

- Choose lawn fertilizers with low or no phosphorus (the middle number) and follow the directions
- Avoid using "triple" products (e.g. 12-12-12)
- Confirm spreader setting before applying



CLEAN UP - AVOID SURFACE WATER

- Maintain a **NO APPLICATION** zone near lakes, rivers, streams and storm drains
- Never discharge clippings near lakes, rivers, streams or drains
- Sweep fertilizer granules from walks and driveways onto the lawn
- Wash your spreader on the grass



WATER SMART

- Don't soak your lawn and avoid night watering
- Watering should not produce puddles; lighter, more frequent watering is best
- Brown lawns are OK; dormancy is a natural response to drought, however, some water may be necessary during an extended drought of more than a month
- Following Go Green Lawncare Tips will reduce the amount of water your lawn needs



FACING FORECLOSURE... What Can You Do?

If you are worried about losing your home, learn all you can as soon as you can. Come to a free workshop to learn about:

**CHOICES TO MAKE
TIMELINES THAT MATTER
RESOURCES TO HELP**

Many people in Michigan are in a home ownership crisis. Get the facts so that you can make the best decision for your family to keep your home, sell your home or let the foreclosure proceed.

Face Reality with Hope.
Register by calling (586) 469-6430.

June 23rd, 2009



**Warren City Hall
1 City Square
Warren, MI 48093**

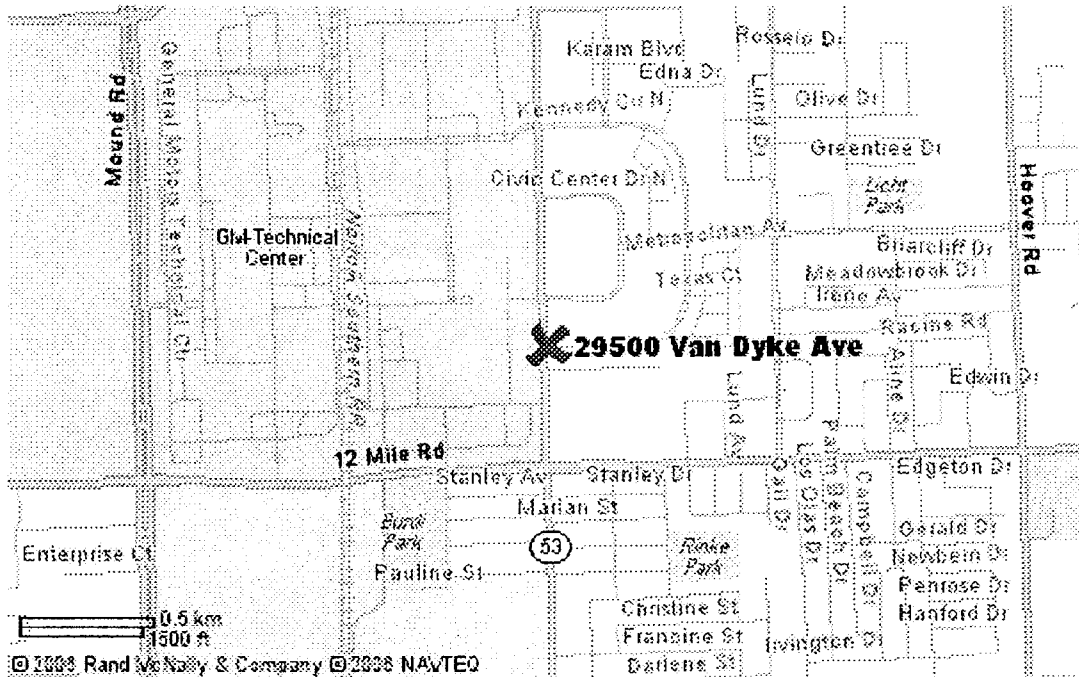
6:00 - 8:30 p.m.

Please visit our website at
www.msumoneywise.org



Sponsored by Michigan State University Extension

For additional information,
call 586-469-6430



Warren City Hall
1 City Square
Warren, MI 48093

1. Turn East on Civic Center South from Van Dyke
2. Drive straight ahead toward parking garage.
3. Turn right on Court St.
4. Enter parking garage.
5. Park
6. Go to 1st level of garage.
7. Enter new City Hall on first floor.
8. Turn left—follow signs to conference room.
9. Conference room next to the library.

MSU is an affirmative-action, equal-opportunity employer. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, gender identity, religion, age, heights, weight, disability, political beliefs, sexual orientation, marital status, family status or veteran status.

**MICHIGAN STATE
UNIVERSITY
EXTENSION**
MACOMB COUNTY
BOARD OF COMMISSIONERS

*Introducing a new **FREE** class
offered by Macomb MSU Extension!*

Money Smart from the Start

Would you like to teach your child about Saving and Spending? This free parent education session will give you the tools you need to teach your child ages 3-8 the ins and outs of MONEY!



For more information

please call:
586-469-7614



Funded in part, or in whole, by:

**United
Way**



United Way
for Southeastern Michigan

Tuesday, July 7th
6:30 - 8:30 p.m.

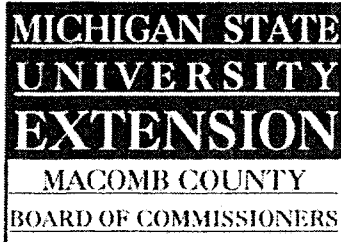
MSU Extension - Macomb
21885 Dunham Road - Door E
(rear of the building - look for the satellite dish)
Clinton Township, MI 48036
See map and directions on back!

Presented by: Jean Lakin, Extension Educator
Family Programs

Parents only, child care is not available for this session.

IMPORTANT: We are strictly an educational service. We do not sell or distribute your personal information to others. No solicitors will call.

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Class size is LIMITED
Register EARLY!

Directions to MSU Extension

*Our office can be reached by taking I-94 exit 240B,
which is Utica-M59 West.*

Take a Michigan left on Groesbeck (South).

*Take a right on Elizabeth, then a left on
Dunham Rd., just past the Macomb County Jail.*

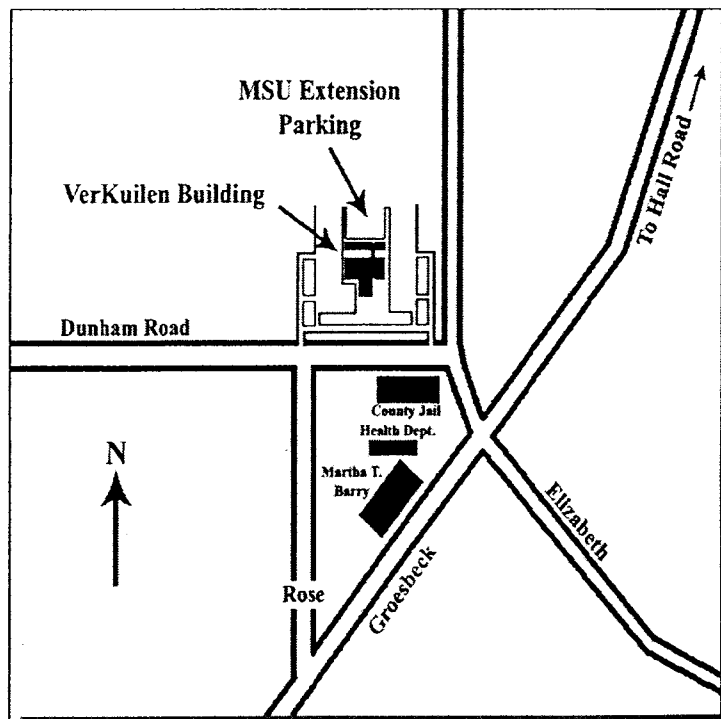
The VerKuilen Building will be on the right.

MSUE is located at building entrance "E" (north side)

Money Smart from the Start

*is being held in the VerKuilen
Building's Assembly Room.*

*Entrance "E" is near the
satellite dish and the
Master Gardener program's
demonstration gardens.*



For information on additional classes and services we offer, please visit our website at:

www.macombcountymi.gov/msuextension

... and click on our events calendar!

Living with Less

Adjusting to the Sudden Loss of Income

By attending **Living With Less**, you will learn:

- Recognize the grief over the loss
- Reassess how money will be used
- Developing and maintaining a spending plan
- Managing disagreements

Upcoming Classes

Wed - June 17th
6:00 - 9:00p.m.

Fri - June 19th
6:30 - 9:30p.m.

Tues - June 30th
10:00 a.m. - 1:00 p.m.

Fraser Public Library
16330 Fourteen Mile
Fraser, MI 48026

Ray Township Library
Senior Activities Center
64255 Wolcott Road
Ray, MI 48096

MSUE - Macomb
VerKuilen Bldg
21885 Dunham Road
Clinton Twp., MI 48036

Presented by:

Debra Studebaker, Educator
Family Programs

These classes are
being offered free of charge!

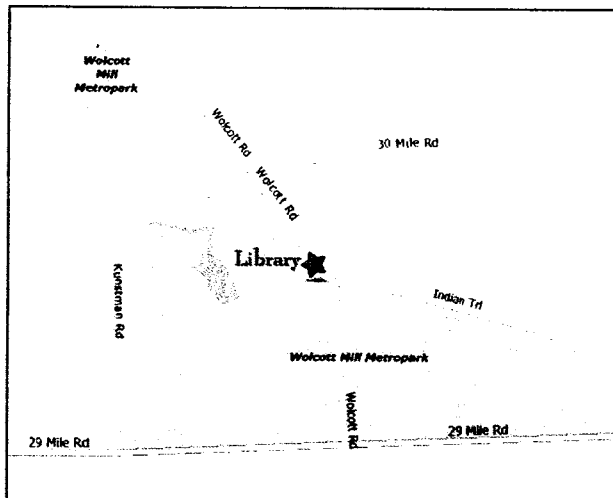
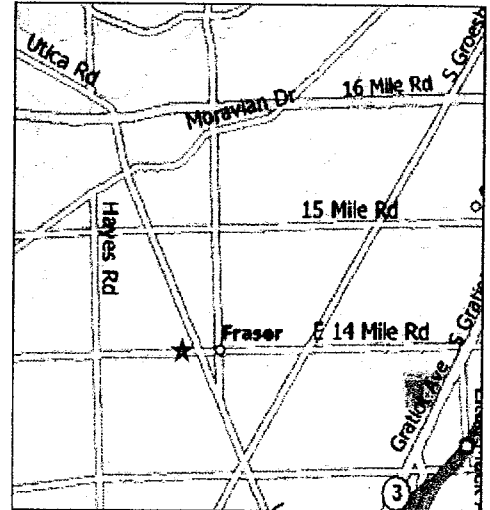
** adapted from Adjusting to the Sudden Loss of Income, University of Minnesota*



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Directions to Class Locations

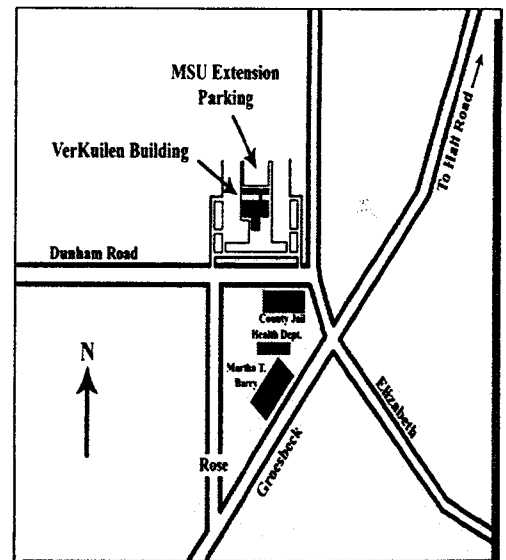
Fraser Public Library
16330 Fourteen Mile Road
Fraser, MI 48026
(on Fourteen Mile Road - West of Utica)



Ray Township Library
64255 Wolcott Road
Ray, MI 48096

MSU Extension - Macomb

Our office can be reached by taking I-94 exit 240B, which is Utica-M59 West. Take a Michigan left on Groesbeck (South). Take a right on Elizabeth, then a left on Dunham Rd., just past the Macomb County Jail. The VerKuilen Building will be on the right. MSUE is located at building entrance "E" (north side)



For information on additional programs available, please visit our website at:
www.macombcountymi.gov/msuextension

Michigan Availability Guide

This chart is a buying guide for fruits and vegetables commonly grown in Michigan. It shows a wide range of availability because the season for fruits and vegetables varies slightly from year to year and from one area of the state to another.



Fruits

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Apples (fall)												
Apples (summer)												
Apricots												
Berries (black)												
Blueberries												
Cantaloupe												
Cherries (red tart)												
Cherries (sweet)												
Grapes												
Melons (watermelon, musk)												
Nectarines												
Peaches												
Pears												
Plums												
Raspberries												
Rhubarb												
Strawberries												

Vegetables

[illegible]

The Guide at a Glance

The Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables In Brief

This *Guide* provides general, broad-based voluntary guidance that may be applied, as appropriate, to individual operations

The Guide

- Is intended to assist domestic and foreign growers, packers, and shippers of unprocessed or minimally processed (raw) fresh fruits and vegetables by increasing awareness of potential hazards and providing suggestions for practices to minimize these hazards
- Covers agricultural and postharvest water uses, manure and biosolids, worker health and hygiene, field and facility sanitation, transportation, and traceback.
- Does not impose any new requirements or supercede existing laws or regulations
- Will be most effective when used to evaluate individual operations and to institute good agricultural and good manufacturing practices (GAPs and GMPs) appropriate to the individual operations

Basic Principles include

- Prevention of microbial contamination of fresh produce is favored over reliance on corrective actions once contamination has occurred
- Accountability at all levels of the agricultural and packing environments is important to a successful food safety program

Water

Wherever water comes into contact with fresh produce, its quality dictates the potential for pathogen contamination

Agricultural Water

- Identify source and distribution of water used.
- Be aware of current and historical use of land
- Review existing practices and conditions to identify potential sources of contamination. Consider practices that will protect water quality
- Maintain wells in good working condition
- Consider practices to minimize contact of the edible portion of fresh produce with contaminated irrigation water. Where water quality is good, risk is low regardless of irrigation method

Processing Water

- Follow GMPs to ensure water quality is adequate at the start of and throughout all processes
- Maintain water quality, such as by periodic testing for microbial contamination, changing water regularly, and cleaning and sanitizing water contact surfaces
- Antimicrobial chemicals may help minimize the potential for microbial contamination to be spread by processing water; levels of antimicrobial chemicals should be routinely monitored and recorded to ensure they are maintained at appropriate levels
- As organic material and microbial load increase, the effectiveness of many antimicrobial chemicals will decrease. Filtering recirculating water or scooping organic material from tanks may help reduce the build-up of organic materials



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Cooling Operations

- Maintain temperatures that promote optimum produce quality and minimize pathogen growth
- Keep air cooling and chilling equipment clean and sanitary
- Keep water and ice clean and sanitary
- Manufacture, transport, and store ice under sanitary conditions

Manure and Municipal Biosolids

Properly treated manure or biosolids can be an effective and safe fertilizer.

- If manure is used as a fertilizer, it should be managed to minimize microbial hazards
- Federal regulations address the requirements for use of biosolids in the U.S.. Some states also have specific requirements for the use of biosolids. Foreign growers should follow these or similar requirements

Manure

- Use treatments to reduce pathogens in manure and other organic materials. Treatments may be active (e.g., composting) or passive (e.g., aging)
- Manure treatment and storage sites close to fresh produce fields increase the risk of contamination
- Consider factors such as slope and rainfall and the likelihood of runoff into fresh produce production areas
- Use barriers or physical containment to secure storage and treatment sites
- Protect treated manure from being re-contaminated
- When purchasing treated manure, get information about the method of treatment
- Maximize the time between application of manure to production areas and harvest
- Use of raw manure on produce during the growing season is not recommended

Animal Feces

While not possible to exclude all animal life from fresh produce production areas, many field programs include elements to protect crops from animal damage.

- Domestic animals should be excluded from fields and orchards during the growing and harvesting season
- Follow GAPs to ensure animal waste from adjacent fields, pastures, or waste storage facilities does not contaminate fresh produce production areas. Where necessary, consider physical barriers such as ditches, mounds, grass/sod waterways, diversion berms, and vegetative buffer areas
- Control of wild animal populations may be difficult or restricted by animal protection requirements. However, to the extent feasible, where high concentrations of wildlife are a concern, consider practices to deter or redirect wildlife to areas where crops are not destined for fresh produce markets

Worker Health and Hygiene

Infected employees who work with fresh produce increase the risk of transmitting foodborne illness.

- Train employees to follow good hygienic practices
- Establish a training program directed towards health and hygiene – include basics such as proper handwashing techniques and the importance of using toilet facilities
- Become familiar with typical signs and symptoms of infectious diseases

- Offer protection to workers with cuts or lesions on parts of the body that may make contact with fresh produce
- If employees wear gloves, be sure the gloves are used properly and do not become a vehicle for spreading pathogens
- Customer-pick and road-side produce operations should promote good hygienic practices with customers – encourage handwashing, provide toilets that are well equipped, clean, and sanitary and encourage washing fresh produce before consumption

Sanitary Facilities

- Poor management of human and other wastes in the field or packing facility increases the risk of contaminating fresh produce.
- Be familiar with laws and regulations that apply to field and facility sanitation practices
- Toilet facilities should be accessible to workers, properly located, and well supplied
- Keep toilets, handwashing stations, and water containers clean and sanitary
- Use caution when servicing portable toilets to prevent leakage into a field
- Have a plan for containment in the event of waste spillage

Field Sanitation

Fresh produce may become contaminated during pre-harvest and harvest activities from contact with soil, fertilizers, water, workers, and harvesting equipment.

- Clean harvest storage facilities and containers or bins prior to use
- Take care not to contaminate fresh produce that is washed, cooled, or packaged
- Use harvesting and packing equipment appropriately and keep as clean as practicable
- Assign responsibility for equipment to the person in charge

Packing Facility

Maintain packing facilities in good condition to reduce the potential for microbial contamination.

- Remove as much dirt as practicable outside of packing facility
- Clean pallets, containers, or bins before use; discard damaged containers
- Keep packing equipment, packing areas, and storage areas clean
- Store empty containers in a way that protects them from contamination

Pest Control

- Establish and maintain a pest control program
- Block access of pests into enclosed facilities
- Maintain a pest control log

Transportation

Proper transport of fresh produce will help reduce the potential for microbial contamination.

- Good hygienic and sanitation practices should be used when loading, unloading, and inspecting fresh produce
- Inspect transportation vehicles for cleanliness, odors, obvious dirt and debris before loading
- Maintain proper transport temperatures
- Load produce to minimize physical damage

Traceback

The ability to identify the source of a product can serve as an important complement to good agricultural and management practices.

- Develop procedures to track produce containers from the farm, to the packer, distributor, and retailer
- Documentation should indicate the source of the product and other information, such as date of harvest, farm identification, and who handled the produce
- Growers, packers and shippers should partner with transporters, distributors and retailers to develop technologies to facilitate the traceback process

Once good agricultural and management practices are in place, ensure that the process is working correctly. Without accountability, the best efforts to minimize microbial contamination are subject to failure.

Copies of the *Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables*, October 1998, are available from:

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